

DET-1600/1620 DETONATION SENSING MONITORS

- Moderately-priced system protects natural gas-fueled engines from destructive knock/detonation
- Monitors the engine for in-cylinder misfire conditions
- Automatic load reduction and engine shutdown functionality
- Can be connected to most Altronic digital ignition systems for automatic timing retard control in the event of detonation
- CSA-certified for use in Class I, Division 2, Groups C and D hazardous areas

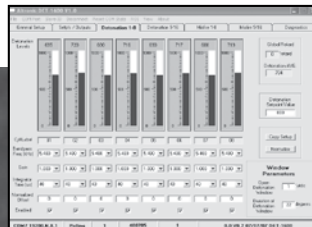
The Altronic DET-1600/1620 Detonation Sensing Monitors are 24VDC-powered, 32-bit microprocessor-based electronic instruments designed for use on natural gas-fueled engines to detect detonation and misfire and avoid consequential engine damage. Industry-standard, low-cost, piezoelectric vibration sensors are mounted directly on the engine and are used to transform the vibrations caused by combustion into electrical signals which are then evaluated by the DET device. These values – generated for every cylinder on a cycle-by-cycle basis – are then measured

against misfire and detonation setpoints configured by the user for the monitored engine. The monitor accepts up to 16 detonation sensors that are wired to pluggable Phoenix-type connectors; the recommended configuration is one sensor per cylinder.

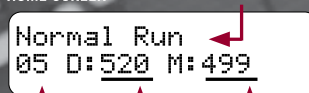
The DET system can be configured to take a number of control actions to protect the monitored engine upon indication of detonation (or misfire). In many applications, the DET will utilize one of two solid-state output switches to activate an external unloader to reduce engine load. Should that remedial action be unsuccessful addressing the detonation issue, the DET can be configured (when used in conjunction with a digital ignition system) to automatically retard the ignition timing. In the event that an ignition timing adjustment also proves to be ineffective in eliminating engine detonation, the second output switch – typically tied to a digital annunciator or other monitoring device – acts as a final safety measure to shut down the engine.

The DET system is housed in a rugged, powder-coated, aluminum enclosure and features an integral 2x16 backlit LCD to display the detonation and misfire reference level numbers, engine cylinder labels, control and output switch status, the cause of shutdown log, and all diagnostic messages. System configuration is accomplished using an on-board RS485 serial port and a powerful, yet easy to use, system configuration and monitoring program.

TERMINAL PROGRAM

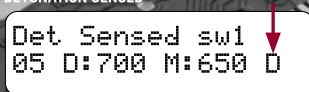


HOME SCREEN GLOBAL SYSTEM STATUS

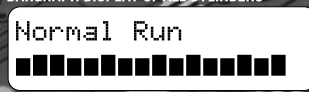


CYLINDER NUMBER REF. NUMBER VS DETONATION SETPOINT REF. NUMBER VS MISFIRE SETPOINT

DETONATION SENSED INDIVIDUAL CYL STATUS



BARGRAPH DISPLAY OF ALL CYLINDERS



CERTIFIED
CLASS I, DIVISION 2
GROUPS C AND D

Specifications

Power Requirement DC powered, 10-32VDC, 0.30 AMP max.

Ambient Temperature Range -40°C to 85°C (-40°F to 185°F)

Sensors Up to 16

Sensor Type Piezoelectric Vibration Sensor, Bosch 0 261 231 148 or equivalent

Keypad 8-key, membrane

Display Backlit, 2x16 character, LCD

Display Update Rate 0.5 seconds nominal

Sensor Scan Rate On Firing Event

Output Switch 2 programmable, solid-state rated 200VDC, 0.2 AMP continuous, optically isolated from power supply, one for Alarm, one for Shutdown

Switch Response Time Tied to Filter Value and Display Reading (with filter at 1, max response time is approx. 0.5 sec.)

RS485 Serial Outputs 2

Current Loop Output 4-20mA

Hazardous Area Classification Class I, Div. 2, Groups C & D for direct hook-up, Temp Code T4, max ambient temp 85°C

Ordering Information

Detonation Sensing Monitor ⁽¹⁾ DET-1600

Detonation Sensing Monitor ⁽²⁾ DET-1620

Adapter, DET-1620 691015

Vibration Sensor 615107

Sensor Cable, 10' 693134-1

Sensor Cable, 20' 693134-2

Sensor Cable, 30' 693134-3

Sensor Cable, 40' 693134-4

Sensor Cable, 50' 693134-5

Sensor Cable, 100' 693134-6

⁽¹⁾ For engines equipped with Altronic CD200, DISN, or CPU-95 ignition systems. For CPU-95 units with dual capacitors, please contact the factory.

⁽²⁾ For engines equipped with Altronic CPU-2000 ignition system. Requires adapter 691015.

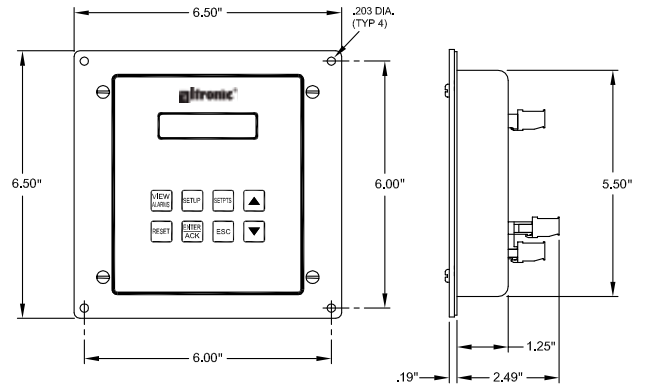
ALTRONIC

A Member of the HOERBIGER Group

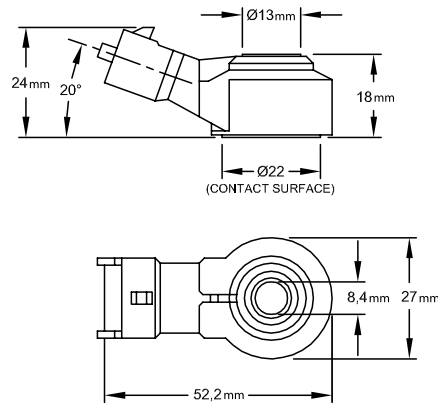
712 Trumbull Avenue / Girard, Ohio 44420
 (330) 545-9768 / Fax: (330) 545-9005
 www.altronic-llc.com Email: sales@altronic-llc.com

FORM DET-1600-1620 8-22 ©2022 Altronic, LLC

Display Module Dimensions



Sensor Dimensions



System Diagram (Overview)

